

## HEART DISEASE RISK: Hypertension

**Hypertension**, also known as High Blood Pressure, is when the outward force of blood on your artery walls is above a designated safe level. At present, to be diagnosed with Hypertension your Systolic Pressure (the top number; when the heart is pumping blood out) must be **greater than 140** millimeters of mercury (mmHg), and your Diastolic Pressure (the bottom number; when your heart is filling with blood) must be **greater than 90** mmHg. High blood pressure is the No. 1 modifiable risk factor for stroke. It also contributes to heart attacks, heart failure, atherosclerosis, and kidney disease. For individuals 50 years of age and older, the systolic pressure is considered more of a factor for increased health risks. Treatment is recommended for elevated systolic pressures, regardless of diastolic pressure. Current research has shown, in this population, that a sustained 12 mmHg decrease in systolic pressure will prevent approximately 10% of deaths. For individuals with diabetes and/or kidney diseases it is recommended that the systolic pressure be less than 130 mmHg, and the diastolic pressure be less than 80 mmHg. **Pre-Hypertension** is a relatively newer classification. This is classified when the systolic pressure is 120 – 139 mmHg, and the diastolic pressure is 80 – 89 mmHg. This is to identify individuals who are at risk for developing hypertension, and the associated health risks.

It has long been known that following a low salt/sodium diet helped only a small percentage of individuals with high blood pressure. Recently, advances in research have shown much better results in lowering blood pressure by combining sodium reduction with other dietary changes. Scientists from the National Heart, Lung, and Blood Institute (NHLBI) have discovered that blood pressure is reduced when individuals follow an eating plan that is low in saturated fat, cholesterol, and total fat, and that emphasizes fruits, vegetables, and low-fat dairy foods. This eating plan—known as the DASH eating plan—also includes whole grain products, fish, poultry, and nuts. It is reduced in red meat, salt, sweets, and sugar-containing beverages. It is rich in magnesium, potassium, and calcium, as well as protein and fiber.



Following the DASH eating plan can potentially reduce blood pressure fast, within 2 weeks of starting the plan. The largest reductions in blood pressure came when individuals followed the DASH eating plan along with reducing their sodium intake to less than 1,500 mg per day. Studies showed that the DASH diet combined with the lower sodium intake reduced systolic blood pressure by an average of 8.9 mm Hg and diastolic blood pressure by an average of 4.5 mm Hg. In those with hypertension, the combination reduced systolic blood pressure by an average of 11.5 mm Hg; in those without hypertension, the combination reduced systolic blood pressure by an average of 7.1 mm Hg.

### Prevention/Treatment of Hypertension

- *Increase potassium intake:* Increase fruit intake to a minimum of two servings per day, and vegetables, to a minimum of three servings per day.
- *Increase calcium intake:* Increase intake of 1% or fat-free milk, light yogurt, calcium-fortified orange juice, kale, and broccoli
- *Increase magnesium intake:* High magnesium foods include avocado, wheat germ, nuts, spinach, bran cereals, and potatoes.

- *Decrease sodium intake:* Avoid processed, “instant” and canned foods, cured meats, and table salt. Replace these foods with low-sodium varieties, fresh vegetables and meat and use herbs and spices instead of salt.
- *Reduce the intake of saturated fats* and increasing intake of mono- and poly-unsaturated fats.
- *Decrease intake of red meat* and include more fish and poultry into the diet.
- *Increase the use of whole grain products* and decrease intake of processed refined sugars.
- *Reduce/eliminate alcohol intake.*
- *Decrease/eliminate coffee intake.* Considered safe is 1 – 2 servings per day. This includes decaffeinated coffee as well. Although not understood fully, research has shown that coffee regardless of type raises blood pressure.
- *Regular physical activity.* Current recommendations from the American Heart Association are 30 or more minutes per day of moderate-intensity cardiovascular exercise 5 or more days of the week. (You should sweat, but still be able to have a conversation while exercising).
- *Weight loss* if overweight or weight maintenance if at a healthy body weight. Current research shows that any amount of weight loss will benefit blood pressure control.

### **Homocysteine**

Homocysteine is an amino acid found in the blood naturally from the breakdown of other proteins. Elevated levels can lead to, or promote, heart disease and stroke. There has not been sufficient evidence to provide exact recommendations, but intake of certain B vitamins (particularly folate/folic acid, Vitamin B<sub>6</sub> and Vitamin B<sub>12</sub>) have been shown to help breakdown homocysteine and prevent elevated levels. Insuring adequate intake (having a well balanced diet with at least 5 servings of fruits and vegetables) will promote health benefits for those with high risks for heart disease. Foods like citrus fruits, tomatoes, leafy green vegetables, nuts, fortified whole grain products and milk are the best sources for these B vitamins and are already included into the DASH eating plan.

You can find more detailed information on the DASH eating plan, including sample menus and recipes at the following website: [www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm](http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/index.htm)